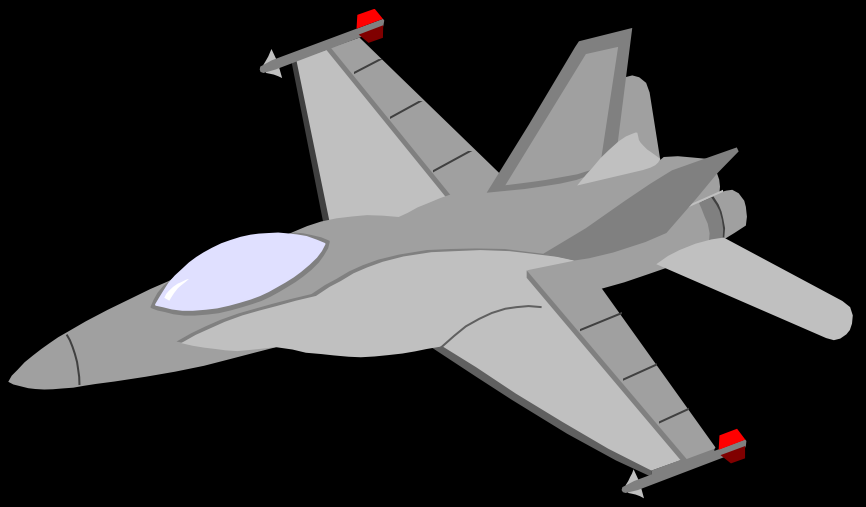


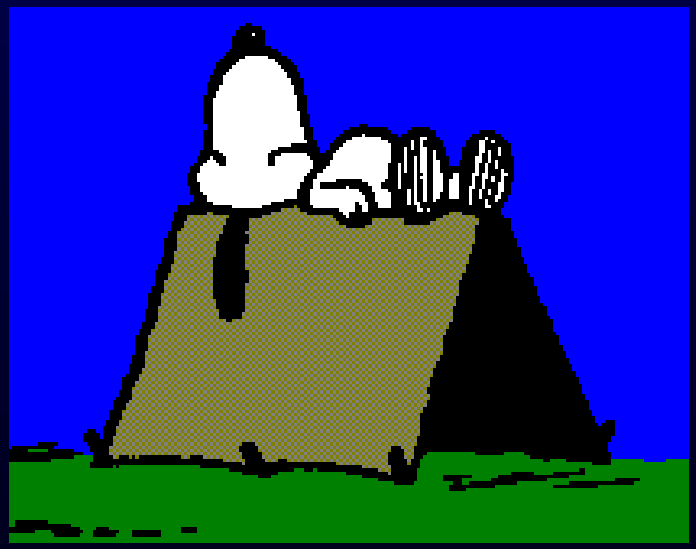
Fatigue Countermeasures

Fatigue Countermeasures

- Scope of problem
- Aviator fatigue
  - Short haul ops stud
  - Long haul ops study
- Countermeasures
  - Programmed naps
  - Sleep hygiene

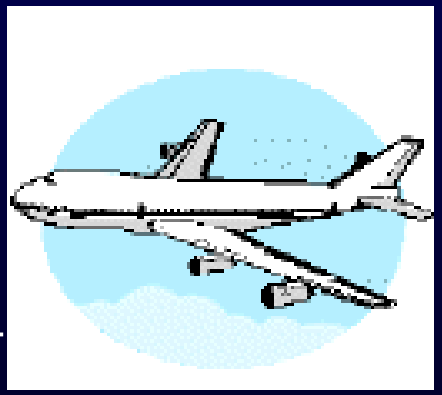
Fatigue: Scope

- Need for 24 hr ops
- Fatigue implicated
  - Exxon Valdez
  - Three Mile Island
  - Bhopal chemical exposure



Aviator Fatigue

- Short-haul (<8 hr)
- Trip vs. pretrip
  - Longer to fall asleep - 12 m
  - Slept less - 1.2 h
  - Awoke earlier - 1.4 h
  - More caffeine - 3.4 vs. 1.9
  - More alcohol - 1.6 vs. 0.5



Aviator Fatigue

- Long haul
  - 12 day, eight-leg trans Pacific crossings
  - 9 h flight, 25 h layover
- Rest vs. no rest in flight
  - Slept during 93% opportunities
  - Improved vigilance
  - Fewer microsleeps (≥ 5 sec)
    - 2.9 vs. 6.37 (last 90 min of flight)

Sleep Hygiene

- Get up same time
- Exercise during day
- Avoid vigorous exercise at night
- Avoid caffeine after 1600
- Avoid alcohol - fragments sleep

Sleep Hygiene

- Bedroom quiet, dark, comfortable temp
- Read, warm bath/shower, soft music
- No TV or work in bed
- If not asleep in 15-20 min, get up
- Relaxation techniques

Fatigue Countermeasures

- Scope of problem
- Aviator fatigue
  - Short haul ops study
  - Long haul ops study
- Countermeasures
  - Programmed naps
  - Sleep hygiene